

PRACTICING WHAT WE PREACH

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Nurses have always been heroes. In wartime, they stayed with their patients when bombs were dropping and when the enemy was fast advancing.¹ In peacetime, they have worked double shifts, risked job security, and taken the moral high ground—all in the interest of their patients.²

Recently, registered nurses—more than 230 000 of them—have contributed significantly to the health of the nation. In 1976, 121 700 female nurses who were between the ages of 30 and 55 years old completed a mailed questionnaire on their medical history and lifestyle for the Nurses' Health Study from Harvard University, School of Public Health. A second group of 117 000 female nurses between 25 and 42 years old were enrolled in 1989 to create a new and younger cohort. The aim of the Nurses' Health Study is to identify the effects of diet, lifestyle risk factors, and use of oral contraceptives on health. To enter the study, the nurses could not have been diagnosed with cardiovascular disease, diabetes, or cancer.³

Nurses Adopted Healthier Lifestyles

Since responding to that first questionnaire, the original surviving nurses in the Nurses' Health Study have faithfully completed questionnaires every 2 years, logged what they ate in food diaries, reported their weight and height, and even sent in blood samples and nail clippings. They are an army of anonymous volunteers who are changing what we know about the contribution of lifestyle to survival, particularly the development of coronary heart disease in women. And what we now know is that *nurses are healthier than they were 2 decades ago*. The respondents in the Nurses' Health Study—and we hope they reflect nurses everywhere—have adopted many practices of a healthy lifestyle. They are eating better and smoking less than they did 20 years ago, and the results in cardiovascular health are dramatic.⁴

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Dramatic Decrease in Coronary Disease

During 14 years of follow-up (1980-1994), the original participants in the Nurses' Health Study had 832 acute myocardial infarctions and 296 died of coronary heart disease. Researchers found that the age-standardized incidence of coronary disease (particularly non-fatal myocardial infarction) declined by 31% in the nurses studied, and this decline was evident in all age groups, older as well as younger.⁴ In the words of the researchers, the reason for the dramatic decrease in coronary disease among the nurses in the study is that they had "a greater adoption of health-promoting forms of behavior."⁴ They had reduced smoking by 41% (from 27% in 1980 to 16% in 1992). This is wonderful news.

In the 1950s, almost half the US population smoked, and the smoking rate for female nurses was higher than in the general population of women.⁵ Tobacco advertisements ran in the *American Journal of Nursing*,⁵ and both patients and nurses smoked in hospitals. With the identification of smoking as the chief avoidable cause of death in the United States in the 1980s and the mounting evidence on the serious health risks related to smoking in women, 60% of the nurses in the Nurses' Health Study who were smokers quit smoking. We believe that the next analysis of nurses' smoking habits will show even more dramatic declines.

Nurses in the Nurses' Health Study also reported eating substantially healthier diets over the years studied, as they had replaced saturated and trans fats with polyunsaturated fat, cereal fiber, and folate. The nurses were also more likely to be taking hormone therapy after menopause (the incidence increased 175% over the time of the study).⁴ (However, the use of hormone replacement therapy has been challenged by recent results of a clinical trial sponsored by the National Institutes of Health.⁶)

When the data from the Nurses' Health Study were analyzed, 68% of the decline in coronary disease was credited to the decrease in smoking, the improved

diet, and the increased use of hormone therapy after menopause reported by the participants. The following lifestyle practices were associated with the lowest cardiac risk in the study:

- No smoking

- A diet characterized by low consumption of sugars and butter and/or margarine, a high ratio of polyunsaturated to saturated fats and high amounts of cereal fiber (eg, whole wheat bread, brown rice, and whole grains), marine omega-3 fatty acids (eg, salmon, tuna, herring), and folate/folic acid (eg, oatmeal, asparagus, and lentils)

- A body mass index (BMI) lower than 25, which is calculated by dividing weight in kilograms by height in meters

- Regular exercise (at least 30 minutes daily of moderate to vigorous physical activity such as brisk walking)

- Alcohol use (optimally 5 grams or about $\frac{1}{2}$ glass of wine per day)⁴

One Health Habit Worsened

The one health habit that worsened during the study period was engaging in lifestyle behaviors that promote obesity. The nurses in the study, like the rest of the US population, had gained weight. The percentage of nurses who were overweight (defined by a BMI greater than 25) increased from 37% in 1980 to 51% in 1992, a figure that is slightly less than the 61% who are overweight in the general population.⁷ In fact, the entire study population on average had gained weight over the 12 years—from a mean BMI of 24.5 in 1980 to 26.1 in 1992. We might take solace in these statistics. After all, a mean increase of 1.7 BMI only translates to approximately 10 pounds for a woman of average height (see the Nurses' Health Study Newsletter posted on the Web site³ for a BMI reference table). But we also know that the data reported in the Nurses' Health Study may not tell the whole story. In just 1 year in the United States, the number of individuals who crossed the line to overweight increased by 6%. The past decade in the United States has been one in which the entire population, from teens to octogenarians, has gotten fatter.⁸

We are a country of abundance, and over the past few decades we have become a people of abundance. Many factors are at work in our increasing struggle with obesity. Some factors contribute to more calories consumed, and some contribute to fewer calories expended in the simple equation that leads to obesity. Certainly, the abundance of relatively inexpensive food, the increasing reliance on the automobile for transportation, and the increase in sedentary leisure time can all

be implicated. But there is one particular demon here, and that is the food industry. The fast-food industry has responded to competition by increasing the size of meals. In the early days, a fast-food meal consisting of a hamburger, french fries, and a 12-ounce soft drink added up to 590 calories. Today, the same value meal has transmorphed to a large cheeseburger, super-sized french fries, and a giant soft drink, with a calorie count of 1550! Given that consuming 3000 calories beyond the required energy expenditure leads to gaining 1 pound, 2 of these not-so-light meals will result in a 1-pound increase in weight.

Health professionals working in hospitals have special problems. In a 24/7 work environment, many nurses and physicians find themselves at the mercy of the hospital cafeteria. For staff members who work nighttime shifts, hospitals often provide little in the way of healthy nutrition. Anyone who has grazed for a 3:00 am "supper" in the vending area knows how hard it is to avoid foods high in saturated fats, excess carbohydrates, and sugars.

The good news from the Nurses' Health Study about weight is that no matter what the weight of the respondents, active women were less likely than sedentary women to die during the 16-year period recently reported. Those who participated in moderate physical activity, such as walking, for at least 1 hour a week had a 20% reduction in mortality risk.⁹

Take-Home Messages

What are the take-home messages from the Nurses' Health Study? The first message is that the nurses who have participated in this study are modern-day heroes. By monitoring generously their habits and sharing their health data, they are providing the answers to many questions about lifestyle risk factors and disease in women. These data will provide the bases for many health recommendations, as well as for future research studies.

The second message is that many nurses have accepted their often underestimated role as health educators and counselors by adopting a "practice what you preach" lifestyle. They have become true role models for healthy living.

The third message is that nurses and physicians still have a great challenge ahead. We need to deal with the epidemic of obesity and its risk to health in our own professions as well as in our patients. Several organizations have developed Web sites to support healthy lifestyles; for example, the American Heart Association has a program called "My Heart Watch" (<http://www.myheartwatch.org>), as well as several sites for specific risk factors such as elevated cholesterol and

physical inactivity. The National Heart, Lung, and Blood Institute (<http://www.nhlbi.nih.gov>) provides instruments to manage cardiac risk factors.

Nurses and physicians have used these Web sites and teaching tools with great success to counsel patients. But we may also consider using these tools in our own lives. It is time to take care of not only our patients but also ourselves.

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